

FIG.2

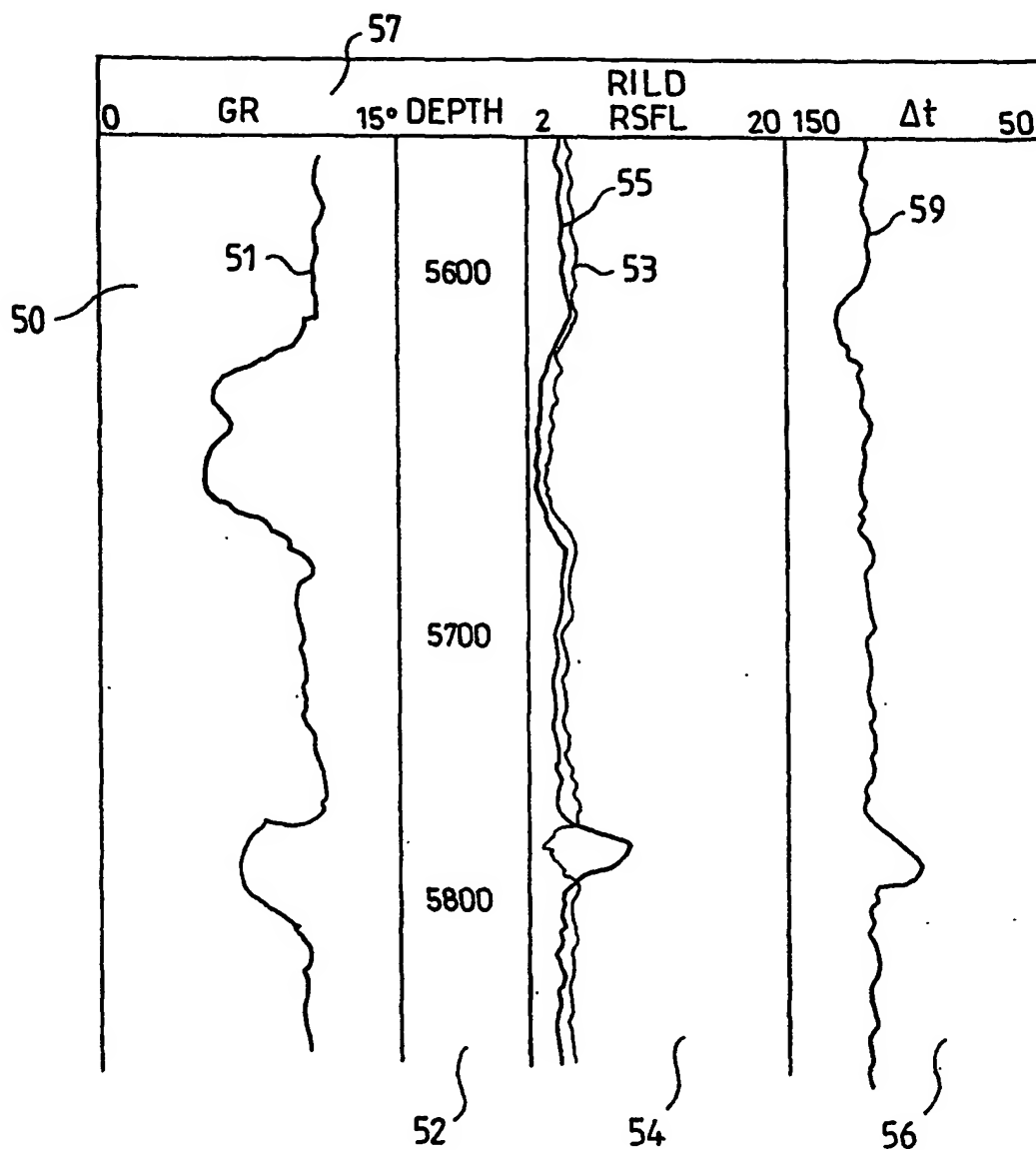


FIG.3
(PRIOR ART)

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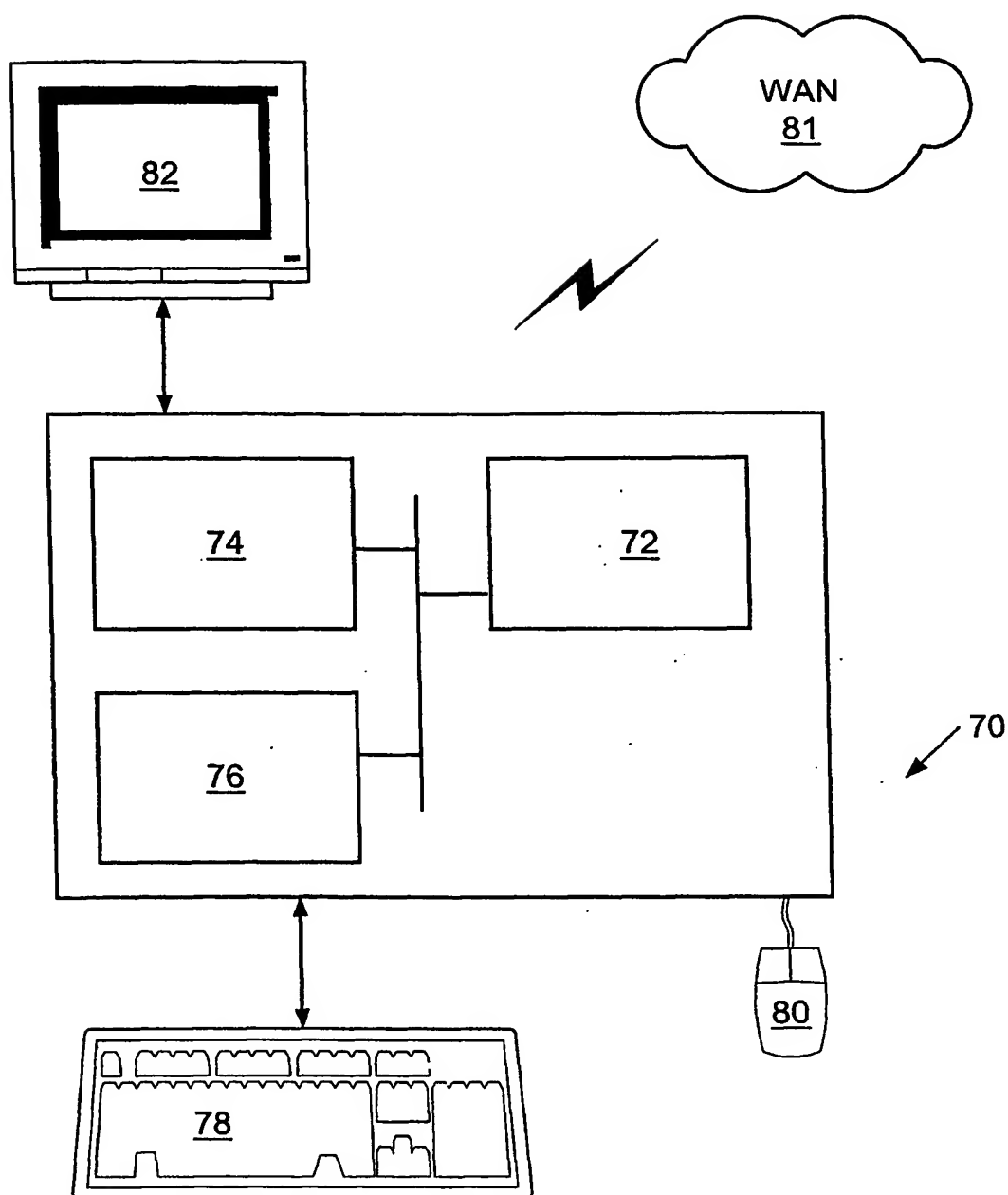


FIG. 4
(PRIOR ART)

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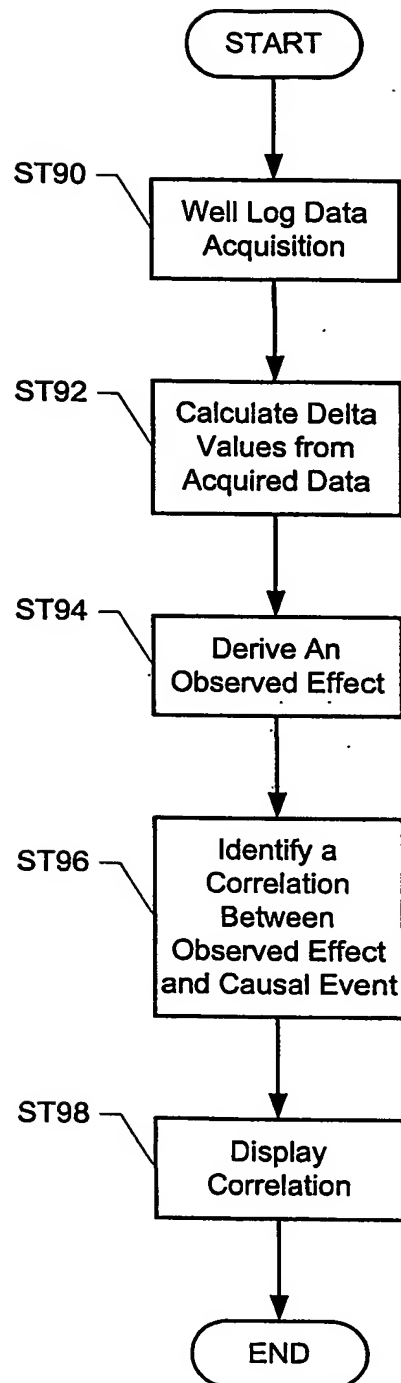


FIG. 5

Observed Effect. Change observed in:	Possible Cause and Diagnostic Measurement																
	102	change in mud weight/type/composition	change in mud resistivity	mud resistivity measurement	formation activation	change in the background density measurement	change in formation temperature	hole enlargement measurement	caliper measurement	formation fracturing	delta pressure/ECD history/ resistivity profile	invasion depth / profile	resistivity profile	change in tool orientation (if azimuthal measurement)	azimuthal measurement	cuttings buildup	drilling torque and pressure history
		Gamma Ray	O ₁₀₈	N ₁₁₀	O ₁₁₂	N ₁₁₄	O ₁₁₆	O ₁₁₈	O ₁₂₀	O ₁₂₂	O ₁₂₄						
		Resistivity	N ₁₂₆	O ₁₂₈	N ₁₃₀	O ₁₃₂	O ₁₃₄	O ₁₃₆	P ₁₃₈	N ₁₄₀	N ₁₄₂						
		Neutron	O ₁₄₄	N ₁₄₆	N ₁₄₈	O ₁₅₀	O ₁₅₂	O ₁₅₄	O ₁₅₆	O ₁₅₈	O ₁₆₀						
		Density and PEF	O ₁₆₂	N ₁₆₄	N ₁₆₆	N ₁₆₈	O ₁₇₀	O ₁₇₂	O ₁₇₄	O ₁₇₆	O ₁₇₈						
		Ultrasonic Caliper	O ₁₈₀	N ₁₈₂	N ₁₈₄	N ₁₈₆	P ₁₈₈	O ₁₉₀	N ₁₉₂	O ₁₉₄	O ₁₉₆						
		Sigma	O ₁₉₈	N ₂₀₀	N ₂₀₂	O ₂₀₄	O ₂₀₆	O ₂₀₈	O ₂₁₀	O ₂₁₂	N ₂₁₄						

FIG. 6

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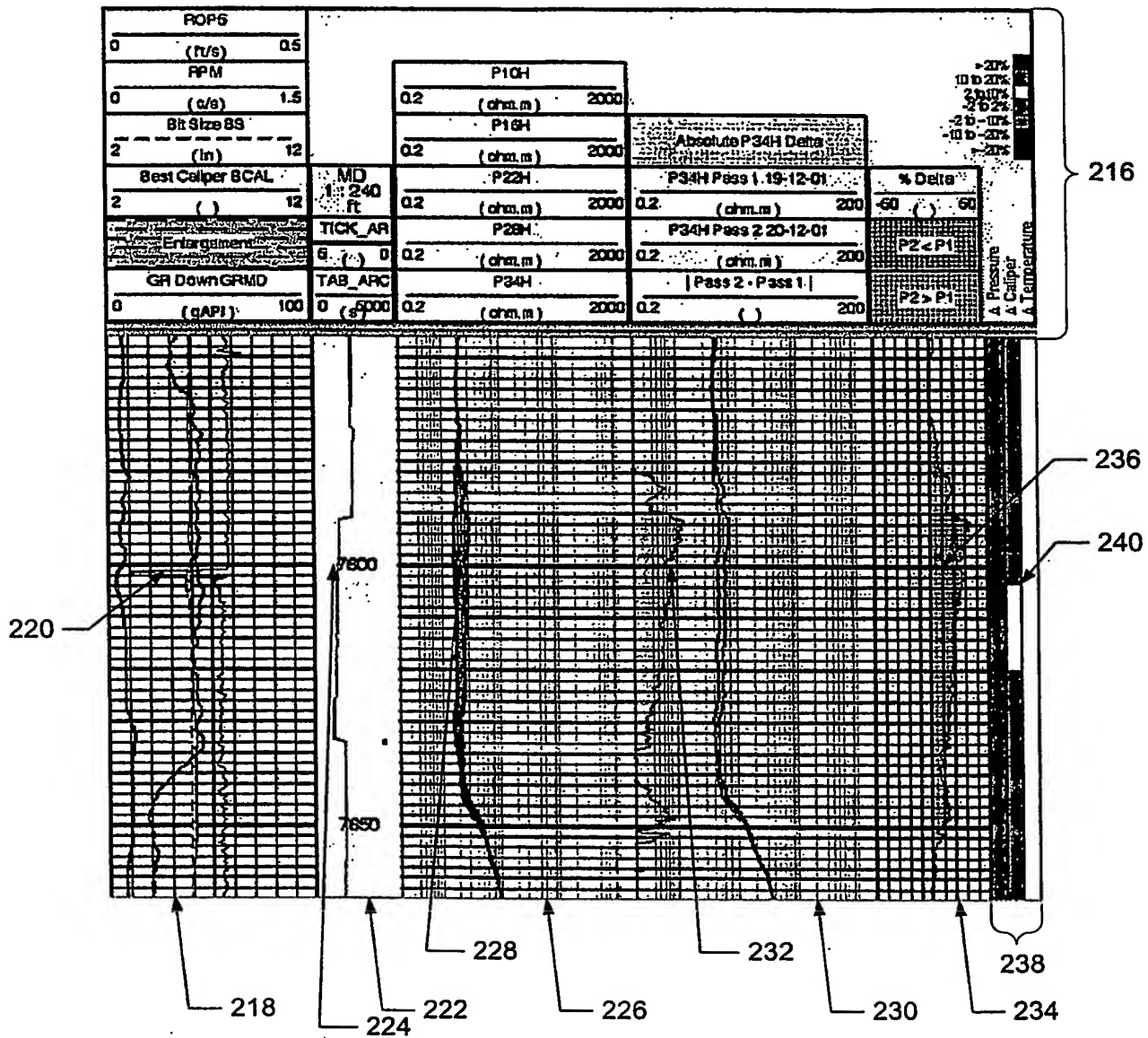


FIG. 7

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